MDI-SOHO Measures of Solar Radius Variation

M. EMILIO et al.
IFA-UH/IAG-USP

Why does the solar luminosity vary and could it change on human timescales by enough to affect terrestrial climate? As important as these questions are, we lack answers because we do not understand the physical mechanisms which are responsible for the solar irradiance cycle. Progress here depends on discovering how changes in the solar interior affect energy flow from the radiative and convection zones out through the photosphere. Measurements of small changes in the solar radius are a critical probe of the Sun's interior stratification and can tell us how and where the solar luminosity is gated or stored. Here we report results from a sensitive 3 year satellite experiment designed to detect solar diameter fluctuations.

Co-Authors : J.R. Kuhn, R. I. Bush, P.Scherrer